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The Woodsias of Quechee

CHARLES SMITH LEWIS

Three years ago, in the Gray Herbarium at Harvard, I found specimens of the *W. alpina* (Bolton) S. F. Gray labelled "Quechee Gulf, Vermont" and dated many years ago. The next year I found the same locality given in the Flora of Vermont (Bulletin No. 187 of the Vermont Agricultural Experiment Station), prepared by the Vermont Botanical Club; and I determined to get to Quechee. But it was not until August, 1919, that my son and I found ourselves standing on the station platform at Dewey's Mills, ready to hunt for the rarest of the Woodsias, the object of our desires for many years.

Quechee Gulf is a very narrow gorge, through which the Ottaquechee river reaches the lower levels and empties into the Connecticut. It is 160 feet from the top of the railroad bridge that spans the Gulf to the bottom. The gorge is not over half a mile in length. Its sides are very precipitous, the western wall impassable for a good deal of the distance; the eastern wall, while very steep and often quite perpendicular, does afford a possible foothold, and in the lower reaches a path runs along its base.

We entered at this lower end, under the directions given us by Mrs. H. E. Heselton of Taftsville, whose courtesy in helping us find some of the rarer Vermont ferns we shall always remember. Before long a cluster of small fronds up on the cliff caught our eyes and we clambered up the side of the gorge. It was steep, but that made no matter, for we both found plants of the *W. alpina*. Mine was growing in a patch of moss, and one plant was larger than any that I recollected in the herbariums, gathered from the United States. Full of enthusiasm we pushed up the Gulf. Soon we came

upon another spot where there were many plants, but most of them were small.

The trail led up over a ledge whose top overhung the water below. There we were rewarded by more discoveries. On the edge of the bank, above the rock, was a small station of the slender rock brake (*Cryptogramma Stelleri* (Gmel.) Prantl). The fertile frond which we gathered was a very fine specimen.

Close by was a tuft of small green stalked fronds, which we quickly saw was *Woodsia glabella* R. Br. Just there it was almost abundant and way up near the top of the cliffs we found, later, another fine group of these delicate plants. Those that we found in the Gulf were much smaller than the *W. alpina*.

The time for our train was fast approaching so we clambered up the side of the Gulf, at this point quite accessible, and covered with hemlock and white birch trees. At the very top where the cliff was impassable and crumbling, overhanging the outcropping rock, was a large colony of the third of the Woodsias which we found that day, *W. ilvensis* (L.) R. Br. The fronds were not the commoner kind, erect, densely crowded and closely matted, such as we found in the pastures above the Gulf, but they were long and graceful as they hung down over the edge or along the sides of the rocks. They had however the distinctive characteristics of *W. ilvensis*, its chaffy rusty brown wool and the fine silvery hairs on the younger fronds.

As we left on the train Mrs. Heselton told us that *Pellaea atropurpurea* had been identified on the far side of the Gulf, high up out of reach. We did not see it, but we had the rare experience of finding the other rock brake, *C. Stelleri* and three of the four Woodsias which grow in the eastern United States. *W. obtusa* was not found in the immediate neighborhood, but Mts. Heselton writes me that it has been found by her growing

with fine specimens of *Asplenium platyneuron*, a little more than a mile west of Woodstock, that is, about eight miles west from Quechee, and Mr. J. G. Underwood reports it within about five miles.

Among the more common ferns we saw in the Gulf, were *Adiantum*; *Dryopteris marginalis*; *D. Thelypteris* and *D. intermedia*; *Athyrium angustum* (Willd.) Presl and possibly the variety *elatus*. *Cystopteris bulbifera* grew in profusion all along the lower sides of the cliffs and we found a few fronds of *C. fragilis* in the Gulf and also in the pastures above it. *Polypodium vulgare* was abundant in places, and we saw two of the Osmundas, *O. regalis* at the very water's edge, with *O. cinnamomea* not far away. Up in the pasture we found not only the fragile bladder fern but *W. ilvensis*, *Dicksonia punctilobula* and *Pteris aquilina*. Along the railway just beyond Dewey's as we were going off we saw *Onoclea sensibilis* and *O. Struthiopteris*. Most of these ferns are abundant in the district. But we doubt if in many other places the three rarer Woodsias can be found in so small a radius, and if in any other place so far south and at so low an elevation one can find such a station of *Wood-sia alpina*.

BURLINGTON, N. J.

Recent Fern Literature

Dr. J. H. Barnhart has published an interesting account of an American writer on ferns who is little known to most of us—William Brackenridge.¹ Brackenridge's own modesty and retiring disposition has made biographical material in regard to him difficult to obtain, but Dr. Barnhart has been able to put together a fairly complete narrative of his life.

¹Barnhart, J. H. Brackenridge and his book on ferns. Journ. N. Y. Bot. Garden 20: 117-124. June, 1919.